APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/780,755	02/08/2001	Chris O'Rourke	062891.0460	6618

		EXAMINER
7590	03/16/2005	SHINGLES, KRISTIE D

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ART UNIT	PAPER NUMBER
2141	

DATE MAILED: 03/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>21 October 2004</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3 and 10-14* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3 and 10-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>21 October 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/21/04</u>.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

Applicant has amended claims 1, 10, 13 and 14.
Claims 2 and 4-9 remain non-elected.
Claims 1, 3 and 10-14 are still pending.

Drawings

1.   The proposed drawing corrections filed on 10/21/2004 have been accepted by the

Examiner. The corrections to the drawings will not be held in abeyance.

Specification

2.   The proposed specification corrections filed on 10/21/2004 have been accepted by the

Examiner. The corrections to the specification will not be held in abeyance.

Information Disclosure Statement

3.   The information disclosure statement (IDS) submitted on 10/21/2004 is in compliance

with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being

considered by the examiner. An initialed and dated copy of the Applicant's IDS form 1449 is

attached to the instant Office Action.

Terminal Disclaimer

4.   The terminal disclaimer filed on 10/21/2004 disclaiming the terminal portion of any

patent granted on this application, which would extend beyond the expiration date of any patent

granted on Application No. 09/780,755 has been reviewed and is accepted.   The terminal

disclaimer is proper and has been recorded.

Response to Arguments

5.   Applicant's arguments with respect to claims 1, 9-11, 19 and 20 have been considered but

are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

6.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed
> in the United States before the invention by the applicant for patent or (2) a patent granted on an application for
> patent by another filed in the United States before the invention by the applicant for patent, except that an
> international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this
> subsection of an application filed in the United States only if the international application designated the United
> States and was published under Article 21(2) of such treaty in the English language.

7.   Claims **1, 3 and 10-13** are rejected under 35 U.S.C. 102(e) as being anticipated by *Belair*

(USPN 6,212,613).

The applied reference has a common assignee with the instant application.   Based upon

the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C.

102(e).   This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37

CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the

inventor of this application and is thus not the invention "by another," or by an appropriate

showing under 37 CFR 1.131.

      a.   **Per claim 10,** *Belair* teaches a method of allocating memory for a client network

address translation (NAT) pool, said method comprising the steps of:

- configuring a client network address translation (NAT) address range having a plurality of client NAT addresses (**col.3 line 25-col.4 line 27**);

- allocating said client NAT address range (**Abstract, col.3 lines 47-58, col.4 lines 15-33, col.6 lines 57-67, col.7 lines 18-60 and col.12 lines 52-58; shadow translation table and mapping circuit generate address mapping which maps an address range to a portion of the memory**);

- allocating memory for a memory pool (**Abstract, col.6 lines 13-67 and col.12 lines 37-58; provision for memory spaces**);

- creating said memory pool (**Abstract, col.6 lines 13-67 and col.12 lines 37-58; provision for memory spaces**);

- creating a subpool within said memory pool, said subpool containing a subpool memory block containing one or more connection blocks that are allocated within said subpool, said subpool constructed and arranged to contain connection blocks with particular ones of said plurality of client NAT addresses within said client NAT address range (**col.3 lines 11-67, col.5 lines 11-35, col.6 lines 52-67, col.7 line 1-col.8 line 12, col.9 lines 34-55, col.10 line 59-col.11 line 11 and col.11 line 56-col.12 line 3; the translation lookaside buffer and shadow memory achieve functions of subpool header—as a subspace of the memory, has entries for storing address mappings for address translation with fixed storage sizing—memory is addressable via virtual addresses referencing/pointing to other virtual address spaces**);

- wherein each connection block is either free or allocated, said particular ones of said plurality of client NAT addresses remain allocated within said subpool until all of said connection blocks are free (**col.3 lines 26-55, col.4 lines 18-41, col.8 lines 18-24 and col.10 line 35-col.11 line 11; an address range maps to a portion of the memory and the addresses remain allocated until the allocated portion of memory becomes deallocated**).

b.   **Claims 1 and 13** contain limitations that are substantially similar to claim 10 and

are therefore rejected under the same basis.

c.   **Per claim 3,** *Belair et al* teach a method as in claim 1, wherein said control block

has a first IP address property **(col.7 lines 1-60; address ranges will comprise and IP address

property).**

d.   **Per claim 11,** *Belair et al* teach the method according to Claim 10, wherein said

step of creating a subpool further comprises the steps of: initializing said subpool; allocating an

interval within said subpool with at least one block; and initializing said at least one block with

client NAT addresses **(col.3 lines 11-67, col.5 lines 11-35, col.6 lines 52-67, col.7 line 1-col.8

line 12, col.9 lines 34-55, col.10 line 59-col.11 line 11 and col.11 line 56-col.12 line 3).**

e.   **Per claim 12,** *Belair et al* method according to Claim 10, wherein said method

further comprising the step of: allocating a new connection block in said memory pool;

allocating said new connection block to subpool **(col.9 lines 56-67 and col.10 line 59-col.12 line

3).**

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

9.   Claims **3 and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Belair*

(USPN 6,212,613) in view of *Boden et al* (USPN 6,832,322).

a.   **Per claim 14,** *Belair* teaches a memory allocation system for a computer, said

system:

- a memory pool (**Abstract, col.6 lines 13-67 and col.12 lines 37-58; provision for memory spaces**);

- means for creating a client network address translation subpool within said memory pool, said means for creating said client NAT subpool including means for allocating a client NAT address range, means for allocating particular addresses within said client NAT address range, means for freeing said addresses in said client NAT address range, and means for deallocating said client NAT address range (**col.3 lines 11-67, col.5 lines 11-35, col.6 lines 52-67, col.7 line 1-col.8 line 12, col.9 lines 34-55, col.10 line 59-col.11 line 11 and col.11 line 56-col.12 line 3; the translation lookaside buffer and shadow memory achieve functions of subpool header—as a subspace of the memory, has entries for storing address mappings for address translation with fixed storage sizing—memory is addressable via virtual addresses referencing/pointing to other virtual address spaces**);

- wherein particular addresses within said client NAT address range remain allocated within said subpool until all of said particular addrsses within said client NAT address range have been freed (**col.3 lines 26-55, col.4 lines 18-41, col.8 lines 18-24 and col.10 line 35-col.11 line 11; an address range maps to a portion of the memory and the addresses remain allocated until the allocated portion of memory becomes deallocated**).

Yet, *Belair* fails to distinctly teach means for accepting user input parameters. However,

Boden et al disclose user input in deciding on and configuring NAT connections, writing NAT

rules and providing logical organized data to the access table (**col.5 line 41-col.6 line 40, col.7**

line 37-col.8 line 67 and col.9 lines 49-57).

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine the teachings of *Belair* and *Boden et al* for the purpose of providing users

the ability to input parameters into the NAT memory allocation system; because it allows the

user to control how the system functions and give the user control of deciding and determining

the system's configuration based on user-specific data and commands.

b.   **Per claim 3**, *Boden et al* teach a method as in claim 1, wherein said control block

has a first IP address property (**col.5 line 25-col.6 line 40, col.7 lines 19-36 and col.8 lines 8-**

21).

Conclusion

10.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

a.   *Albert et al* (USPN 6,650,641) disclose network address translation using a forwarding agent.

b.   *Watkins* (USPN 6,073,224) discloses a network interface circuit with replacement circuitry and method for segregating memory in an address translation unit with locked and unlocked regions.

c.   *Fujimoto et al* (USPN 6,377,500) disclose a memory system with a non-volatile memory having address translating function.

d.   *Chopra et al* (USPN 6,510,509) disclose a method and apparatus for high-speed network rule processing.

e.   *Mohamed et al* (USPN 5,899,994) disclose flexible translation storage buffers for virtual address translation.

f.   *Schutte et al* (USPN 6,178,455) disclose a router, which dynamically requests a set of logical network addresses and assigns addresses in the set to hosts connected to the router.

g.   *Cheriton* (USPN 6,831,917) discloses network address translation for multicast virtual sourcing.

h.   *Sinclair et al* (USPN 6,725,321) disclose a memory system.

i.   *Bal et al* (USPN 6,457,061) disclose a method and apparatus for performing internet network address translation.

j.   *Broberg, III et al* (USPN 6,289,430) disclose a method and apparatus for target addressing and translation in a non-uniform memory environment with user defined target tags.

k.   *Luciani* (USPN 6,331,984) disclose a method for synchronizing network address translator (NAT) tables using the server cache synchronization protocol.

11.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action.   Accordingly, **THIS ACTION IS MADE FINAL.**   See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action.   In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

12.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Kristie Shingles whose telephone number is 571-272-3888. The

examiner can normally be reached on Monday-Friday 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Rupal Dharia can be reached on 571-272-3880. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kristie Shingles
Examiner
Art Unit 2141

kds

RUPAL DHARIA
SUPERVISORY PATENT EXAMINER